

Slagboom & Peeters

Performing As an Independent Photo Supplier

In 1961, Mr Anton Slagboom founded a private company called Slagboom Press Agency, making photographs for local newspapers in The Netherlands. Ships in distress along the coast of Holland were one of the more important news items for this little agency. A turning point came when Mr Slagboom decided to rent an aeroplane instead of using a boat to make the shots.

By Mr Yoeni Slagboom, President, Slagboom & Peeters Luchtfotografie, The Netherlands

Aside from being spectacular, the pictures that resulted could be delivered and published very quickly. Eventually, the company's name was changed into Slagboom & Peeters Luchtfotografie, and flights were made from Seppe and Midden-Zeeland Airfields. The press agency gradually turned into an aerial photography business and, in 1976, purchased its first plane, a Cessna 180 single engine four-seater registered as PH-SLA, and a Wild RC-8 aerial camera. Thus S&P slowly ventured into the world of fully-fledged aerial survey and started to make a name for itself in The

Netherlands. Over the last decade, this vertical photography business has been expanded by Anton's son, Yoeni, with the purchase of better cameras and bigger and faster aeroplanes, all backed by a workforce of motivated employees. When demand rose for vertical photography, a second aeroplane was bought. This twin-engine Cessna T310R provided an opening for working outside of The Netherlands and is now often stationed abroad for purposes of flying projects all over the world. It usually returns to Holland during February-May to fly the domestic projects. This year, a third aircraft was purchased. This Piper Cheyenne II is equipped with turboprop engines and a pressure cabin, making it easier to work in Asia and Africa where aviation fuel and oxygen have proven to be difficult to acquire. Some five years ago, Slagboom & Peeters dove headfirst into the digital age, becoming one of the first companies to offer scanned rectified orthophotos for use as an additional layer in GIS environments in The Netherlands.

Current Profile

Slagboom & Peeters is currently based at Teuge Airport in The Netherlands and has established itself as a leading supplier of both

analogue and digital survey photography to clients both in at home and abroad. The bulk of the company's domestic customers are governmental organisations and larger mapping agencies. Slagboom & Peeters also performs subcontracting work whereby aerial survey flights are executed according to the specifications of the customer. Many jobs can be flown from the home base; for other more distant projects, a flight unit (aeroplane + camera + pilot + navigator/mechanic) is sent into the area to complete the project. The company has three pilots on staff and schedules experienced navigators to all projects. There is a young and enthusiastic workforce of six, working to produce the digital orthophotos and analogue outputs.

Slagboom & Peeters provides full photographic services from its darkrooms, including 24cm dodged contact prints and rectified enlargements up to 100cm x 100cm. The digital unit consists of large format film scanners and workstations using ERDAS and Intergraph Orthophoto software. The output of these workstations may then be imported directly into the customer's CAD or GIS software from a set of CD-ROMS.

To ensure the best possible quality in aerial survey photography, all three aircraft are equipped with large format LH-Systems photogrammetric aerial cameras. These systems are mounted in the aircraft on gyro stabilised camera mounts. All lens cones are calibrated every two years at the Leica factory. Having different types of camera systems available, the company can provide low-cost alternatives if project specifications so require. For the recording of accurate photo-centre coordinates





the company uses a geodetic airborne GPS receiver Trimble-4700 or Ashtech Z-extreme. Accurate navigation along the photo lines and camera triggering is controlled by 'Tracker' Computer Navigation Systems. The system uses GPS with differential correction. All photographs are taken within 30 metres of the planned photo position, and for large flight scales we consider 20 metres the maximum. The triggered position of the photograph is saved in the computer. The Tracker system is fully integrated with the camera system and also controls the stabilised mount for purposes of drift correction.

International and Global Scope

Slagboom & Peeters also offers customers a wide range of products, including :

- ◆ Photo acquisition to specification, in scales ranging from 1:1,000 to 1:60,000, on B&W , colour negative, colour reversal or FCIR film. The equipment used depends on the demand of the customer. If needed, projects may be flown with a high definition (better than 100 lines/mm) lens cone, combined with a gyro-stabilised mount and forward motion compensation to obtain the highest quality imagery possible today. The onboard Ashtech GPS receiver logs the photo centres with centimetre accuracy to aid in easier aerotriangulation processes
- ◆ Orthophotos, geographically corrected to fit onto existing vector maps. The various software modules used allow different types of geocorrection, whereby the customer receives the most economical solution for his needs. Pixel resolutions

can be in the range of 1 meter/pixel for large rural areas up to 5 cm/pixel for detailed analysis of urban areas

- ◆ Colour corrected photomosaics. Orthophotos can be enhanced with a colour correction and/or mosaicking process, if the client so wishes
- ◆ Dodged contact prints. These are produced with a Scanatron dodging printer that improves the overall image quality where needed
- ◆ Analogue enlargements. If needed, these can be rectified and scaled to a certain extent to provide images that come close to orthophotos in areas of little variation in terrain elevation. In The Netherlands, this is still a much wanted product because of its durability and competitive pricing. Market targets at present are governmental organisations which use the products in planning, presentation and monitoring applications. Another

important customer group are the engineering and mapping companies. These companies produce their own end products from the aerial films

On the international market, the accent lies on photo acquisition only. Slagboom & Peeters here performs the role of independent photo supplier.

View of the Future

Aerial survey as a market segment has shown rapid technological progress over the past few years: new camera types with improved resolution and better correction methods for image motion (forward motion compensation and stabilised mounting), GPS for navigation as well as for photo-centre coordinate determination, and INS systems for photo-orientation determination have all entered the market. With a relatively small team of young and dedicated enthusiasts, Slagboom & Peeters have managed to stay on top of all of these new developments by maintaining a close contact with end users and their demands. Slagboom & Peeters estimates a further increase in product quality and quantity demands in the near future. The company aims to remain on top of developments. The company's policy is to replace older equipment by later versions as soon as sufficient confidence is gained in the product. The latest investment in a fast turbine aeroplane is in anticipation of new developments. Over the coming





years the company will maintain its present, relatively small overall size, combined with a high production capacity for flying. This constitution allows quick adaptation to new technologies and jobs. Slagboom & Peeters was heavily involved in the flight testing of

GPS-based survey flight management systems in the 1980s and early 1990s and will continue to make aircraft available for research in such areas in the future. Such involvement keeps Slagboom & Peeters at the forefront of new developments. The company's

market targets are divided into two parts: the domestic market in The Netherlands, where it is a supplier of geo-referenced raster data for GIS applications, and the international market where the company provides a service as a professional data acquisition-unit. In the near future, Slagboom & Peeters will increase its output volume and activities on the international market. A larger volume of production will be achieved by mobilising the aeroplane and equipment as a 'ready-to-work' unit from one area to the other on a global scale. The recently purchased Piper Cheyenne II can achieve such mobilisations quickly and is an extremely reliable platform for out-of-base operations. The activities will continue to be concentrated upon providing a service abroad in addition to a domestic end product. ♦

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